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U. S. Department of Agriculture



PIONEER HYBRIDS

For Northern Iowa

1940 PLANTING

PIONEER *First Commercial*

● The Pioneer Hi-Bred Corn Company, which traces directly back to the pioneers of hybrid corn who started their breeding work in 1913, devotes its resources to the breeding, production and marketing of practical corn hybrids which can be depended upon to make a good yield, stand up under adverse weather, and mature properly.

Pioneer follows five important steps in carrying out this program: first, sound corn breeding; second, rigid performance testing of all new hybrids; third, thorough detasseling; fourth, careful processing; and, fifth, direct-to-farmer marketing.

SOUND CORN BREEDING—Pioneer corn breeders practice sound, time-tested breeding principles. They work with the cream of inbred strains . . . for, besides experimenting with their own superior inbred lines, which are increased in number year after year, they have access to all inbreds released by State Experiment Stations and the U. S. Department of Agriculture.

Pioneer corn breeders maintain the purity of these inbred varieties and, with them, carry on an unceasing experiment to develop better, more practical hybrids.

About one thousand new experimental hybrids are produced each year, very few of which ever become commercial hybrids. This year, the breeding program required over 350,000 individual hand-pollinations.

Through extensive research and superior corn breeding, Pioneer customers get hybrids that stand up against bad weather conditions; hybrids that hold their ears well; hybrids that are adapted to both hand and mechanical picking; and hybrids that produce a good crop of ripe, deep kernel, small cob ears which generally overrun crib measurements when shelled.

PERFORMANCE TESTING—Each experimental hybrid which shows outstanding qualities undergoes a performance test. Before Pioneer corn breeders give it a variety number and produce it for commercial growing, the new hybrid must prove by actual field production its ability to withstand nature's severest planting and growing hazards . . . cold, wet spring weather; wet seasons; drought conditions; wind storms . . . and it must mature.



- MAKING A HAND-POLLINATION
- TESTING FOR YIELD PERFORMANCE
- DETASSELING SEED FIELDS



PIONEER

Producer of Hybrid Seed Corn

THOROUGH DETASSELING—Every Pioneer seed field is grown under the Company's supervision . . . each field is isolated according to state regulations, and detasseled from 14 to 20 times. Experienced supervisors direct the hundreds of men who detassel these Pioneer seed fields. Only thorough detasseling work keeps the hybrid crosses pure. Pure hybrid crosses mean better seed and bigger crops for the corn grower.

CAREFUL PROCESSING—Pioneer hybrid seed is picked before the first damaging freeze occurs, then processed with efficient equipment and improved methods many of which are used only by Pioneer. Every phase of processing . . . sorting, drying, shelling, grading, treating, and sacking . . . is carried on in adequately equipped plants which are operated by trained men. The experience of years goes into every sack. Properly processed, uniformly graded hybrid seed makes planting easier, and produces a good, even stand of healthy corn.

All Pioneer hybrid seed corn is yellow in color; dried to 12% moisture content; shelled; graded into uniform kernel sizes; treated with mercury dust; carefully tested for germination; sacked and sealed in trade-marked bushel bags that are stamped with specific hybrid variety numbers; and ready for planting.

DIRECT-TO-FARMER MARKETING—Pioneer hybrid seed is marketed directly to farmers through representatives who are, almost without exception, farmers themselves.

Practical farmers are picked to represent Pioneer because they know and share the same corn problems that their customers meet. They raise Pioneer themselves and are able to recommend, from first-hand experience, the hybrids best suited for their neighborhoods. Furthermore, they live and farm close to their customers and are always nearby to offer advice and perform personal services.

THOUSANDS CHOOSE PIONEER—Thousands of farmers throughout the cornbelt have discovered the consistent, dependable crops that Pioneer hybrids give. For this reason, Pioneer users have increased from a mere handful in 1926 to many thousands in 1939. These cornbelt farmers demand Pioneer because they want to pocket extra dollars by planting hybrid corn that is bred and processed for performance . . . moreover, they want a corn whose record is based not on one test or one year's results, but on the average of many years' performance under practical farm conditions.



- HAND SORTING INDIVIDUAL EARS
- A PIONEER REPRESENTATIVE
- ONE OF THE MANY PIONEER USERS



PIONEER

Pioneer Maturity in Northern Iowa

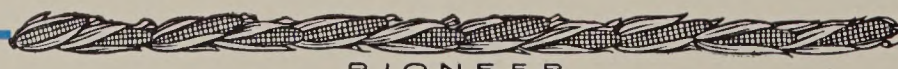
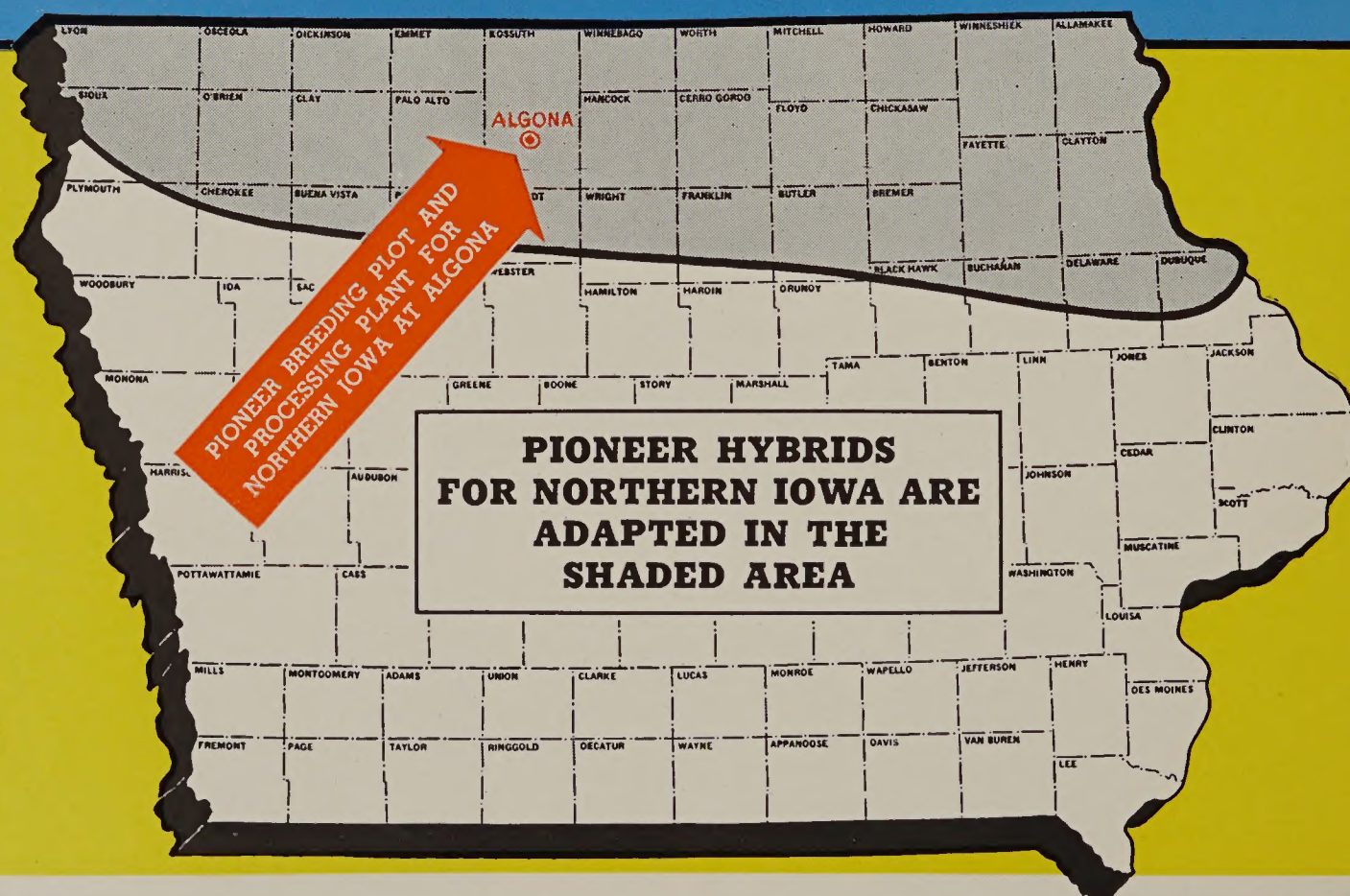
• Pioneer hybrids recommended for northern Iowa are classified under three groups: (1) early maturing, (2) medium maturing, and (3) late maturing. These groupings are made to meet; first, climatic conditions; second, various soil types and conditions peculiar to northern Iowa; third, date of planting; and fourth, personal demands of the farmers.

The early maturing group, Pioneer 355 and 357, should be used for late plantings; for slow soils if planted around May 15th-25th; and for locations where the first freeze occurs unusually early in the fall. Under these conditions, with normal weather, the early maturing group of hybrids will ripen and produce good, sound corn.

Under average northern Iowa climate and average soil fertility, medium maturing Pioneer 352 will mature ahead of the average first freeze if planted by the middle of May. Pioneer 352 should not be planted too late on slow or poor soil.

The late maturing group, Pioneer 322, 324, 335, and 349, is recommended for rich or fast soils; early plantings on soils of average to high fertility; and for silage or fodder corn. None of these hybrids should be planted late on slow or poor soil.

The above recommendations are based on average temperature and rainfall for northern Iowa. These two factors, in abnormal seasons, vary the maturity of corn considerably.



PIONEER

Description of Each Variety

EARLY MATURING

Pioneer 355 Available in Quantity

Earliest hybrid among all regular section entries having 3, 4, and 5 year averages in the Northern Section of the Iowa Corn Yield test; yields well for early maturing corn; suitable for wide range of soil types, being particularly suitable for alkali and peat soils; well liked by farmers who seal their corn and those who shell and sell; adapted for hand picking; strong roots and stiff stalks; excellent ear dropping resistance; good drought resistance; may be susceptible to smut in dry years; low ear height; average size ears with medium dented kernels; short husks and long shanks.

Pioneer 357 Available in Quantity

This hybrid matures about three days later than Pioneer 355, and ripens in Northern Iowa well ahead of the average first freeze; has high yielding ability for early corn; good quality ears that shell out well; good feeding corn; leafy plants; adapted for both machine and hand picking; seems to do particularly well on rich soil; excellent resistance to smut and ear dropping; good drought resistance; fair lodging resistance; moderately rough ears with long husks; medium ear height; short shanks; has tendency to sucker on high nitrogen content soil.

MEDIUM MATURING

Pioneer 352 Available in Limited Quantity

A hybrid which combines outstanding yield and early maturity; ripens ahead of average first freeze in normal weather and soil conditions; adapted for both hand and mechanical picking; excellent resistance to smut and drought; strong roots and stiff stalks; fair resistance to ear dropping; large, wide grained ears with medium dented kernels; long husks; medium ear height.

LATE MATURING

Pioneer 322 Available in Quantity

General purpose variety; very high yield record; Banner Trophy winner in 1937; has highest yield among all regular hybrid entries with 2 and 3 year averages in Northern Section of Iowa Corn Yield test; adapted for wide range of soils; excellent for both hand and mechanical picking; good feeding corn; small cobs and deep kernels; good silage corn; exceptionally strong roots and very stiff stalks; excellent resistance to smut, drought, and ear dropping; medium size, moderately rough ear with long husks; medium ear height; should be planted early on average to high fertility soil.

Pioneer 324 Available in Limited Quantity

High yielding, good feeding corn; excellent for machine picker and hand husking; very strong roots and exceptionally stiff stalks; medium ear height; good resistance to smut, drought, and ear dropping; medium size, moderately rough ears with long husks; same maturity as Pioneer 322.

Pioneer 335 Available in Limited Quantity

Short stalked, leafy plants with low hanging ears; high yielding hybrid; fast drying corn that shells out well; very strong roots and unusually stiff stalks; long ears with medium dented kernels; husks of medium length; good resistance to droughts, and ear dropping; may show a weakness for smut in dry years; maturity about same as Pioneer 322.

Pioneer 349 Available in Limited Quantity

Exceptionally high yielding hybrid; Banner Trophy winner in 1938; in the Northern Section of 1938 Iowa Corn Yield test, it was the highest yielding hybrid and made the highest "general performance" score among the regular entries; leafy plants; recommended for silage; excellent ear dropping resistance; very strong roots and stiff stalks; good resistance against drought; may be susceptible to smut in dry years; large, moderately rough, deep kernel ears; medium ear height; short husks; may be late in short seasons and should be planted early on fast or high fertility soil.



PIONEER Record in the Northern Section

OF THE OFFICIAL 1938 IOWA CORN YIELD TEST

PIONEER:

- Won the Banner Trophy for the second consecutive year in the Northern Section.
- Was FIRST in "general performance" among all section entries.
- Was FIRST in yield among all section entries.
- Was FIRST in "general performance" in 2 of the 3 districts.
- Made 8 of the 45 section entries and had 5 among first 10 "top-ranking" hybrids.
- Was FIRST in yield among all commercial hybrids tested for 3 years (1936-37-38).
- Was FIRST in yield among all commercial hybrids tested for 2 years (1937-38).

PIONEER No.	Average For Years	Bushels Per Acre	Moisture Per Cent	Lodging Grade
357	1935-36-37-38	63.37	19.2	2.1
355	1935-36-37-38	63.17	19.0	2.0
Golden King O.P.	1935-36-37-38	51.24	17.5	2.8
On types of soil where quite early corn is needed, hybrids below may be late in short seasons.				
*322	1936-37-38	70.03	21.5	†1.6
335	1936-37-38	66.51	21.9	1.7
Avg. hybrid	1936-37-38	62.89	21.2	2.0
Avg. O.P.	1936-37-38	55.66	19.4	3.0
*322	1937-38	78.69	22.5	1.6
335	1937-38	72.14	23.0	1.7
Avg. hybrid	1937-38	70.32	22.1	1.9
Avg. O.P.	1937-38	63.23	19.6	2.8
*349	1938	79.38	22.4	1.4
335	1938	74.25	20.1	1.3
322	1938	72.82	20.7	1.2
Avg. hybrid	1938	67.05	20.4	1.5
Avg. O.P.	1938	59.00	17.4	2.4

O.P. Open-pollinated corn.

LODGING GRADE: Lowest figure indicates best resistance to lodging.

*FIRST in yield among all commercial hybrids tested for the number of years indicated.

†FIRST in lodging resistance among all commercial hybrids tested for the number of years indicated.

PIONEER 355 is the earliest hybrid among all commercial hybrids tested for four years (1935-36-37-38).

PIONEER 322 won the Banner Trophy in 1937.

PIONEER 349 won the Banner Trophy in 1938.



PIONEER

Results of Pioneer Testing Work in Northern Iowa

The Records Are Given in Percentage of Pioneer 357, and the Hybrids Are Listed in Order of Maturity—Earliest First

PIONEER No.	Years Tested	Yield Bu.	*Yield % 357	*Moist. % 357	Ear Height % 357	Root *Lodging % 357	Stalks *Standing % 357
355	5	58.1	100	98	88	85	102
357	5	58.1	100	100	100	100	100
O.P.	5	46.8	83	98	96	141	98
352	2	65.1	112	103	100	80	101
322	3	65.1	112	115	115	70	102
324	3	66.8	115	115	110	60	104
335	5	63.3	109	115	95	78	102
349	3	69.7	120	120	111	75	102

IMPORTANT

* The figures under "yield," "moisture," "ear height," "root lodging," and "stalks standing," are given in percentages of Pioneer 357 which is assumed to be 100%. Under "yield" and "stalks standing," those hybrids whose percentages are higher than 100% have a higher yield record and have more standing

stalks than Pioneer 357 for the number of years average indicated. Under "moisture," those hybrids above 100% are later maturing than 357. Under "ear height" and "root lodging," those hybrids below 100% have lower ear height and less root lodging than Pioneer 357.

CHOOSE THE CHARACTERISTICS YOU WANT

MATURITY:	Early—355, 357	Medium—352	Late—322, 324, 335, 349
STRENGTH OF ROOTS:	Very strong—322, 324, 335, 349	Strong—352, 355	Fair—357
STIFFNESS OF STALK:	Very stiff—322, 324, 335	Stiff—349, 352, 355	Fair—357
SMUT RESISTANCE:	Excellent—322, 352, 357	Good—324	Fair—335, 349, 355
DROUGHT RESISTANCE:	Excellent—322, 352	Good—324, 335, 349, 355, 357	Fair—
EAR DROPPING RESISTANCE:	Excellent—322, 349, 355, 357	Good—324, 335	Fair—352
SIZE OF EAR:	Large—335, 349, 352	Medium—322, 324, 355, 357	Small—
DEGREE OF KERNEL DENT:	Rough (moderately) 322, 324, 349, 357	Medium—335, 352, 355	Smooth—
EAR HEIGHT:	Low—335, 355	Medium—322, 324, 349, 352, 357	High—
LENGTH OF HUSK:	Long—322, 324, 352, 357	Medium—335	Short—349, 355



PIONEER

Pioneer Was First to Offer A Replanting Agreement

BANNER TROPHY



- Pioneer won the Banner Trophy in 1938.
- Pioneer won the Banner Trophy in 1937.
- Pioneer has won the Banner Trophy twice in the last two years when hybrid competition has been the keenest.
- Pioneer has won the Banner Trophy 9 times in 14 years.
- Pioneer is the only commercial producer of hybrid seed corn that ever won the Banner Trophy.

REPLANTING AGREEMENT

If, because of cutworms, floods or ANY other reason the stand of corn upon any field planted with PIONEER corn shall be so impaired or diminished that the customer discs up and replants it to corn, we will furnish him free of any charge except transportation costs, a quantity of PIONEER seed equal to that required for such planting. To take advantage of this benefit all the customer needs to do is to notify in writing the Company or its sales representative through whom the seed was purchased in time to permit inspection of the field before it is disced up.



If we have no seed of suitable maturity available for replanting, we reserve the right to furnish an equal amount of PIONEER seed FREE for 1941 planting.

PIONEER HI-BRED CORN COMPANY
Des Moines, Iowa

PIONEER HI-BRED CORN COMPANY

1011 Locust Street, Des Moines, Iowa

FOR PRICE AND ADDITIONAL INFORMATION WRITE TO ABOVE ADDRESS
OR SEE YOUR LOCAL PIONEER REPRESENTATIVE